

SPECIFICATION AMENDMENTS

Replace the paragraph beginning at page 1, line 9 with:

The present invention relates to a thermal type infrared detector in which infrared rays are detected upon by conversion to heat and to an infrared focal plane array including such sensors aligned in a two-dimensional arrangement, and particularly to a structure of a thermal type infrared detector capable of detecting infrared rays at with high sensitivity and low noise.

Replace the paragraph beginning at page 1, line 18 with:

Infrared focal plane arrays are characterized in that they are capable of catching catch sight of objects that do not stimulate human sense of sight and in that they are capable of instantly measuring measure temperatures of objects from distant places in a non contact manner, and such without contact. Such arrays are being used in diverse ways in a wide variety of industrial fields, for measuring and controlling manufacturing lines or, as medical and diagnostic devices or, and devices detecting humans. A general infrared focal plane array includes infrared detectors arranged in a two-dimensional matrix-like manner, and a signal read-out circuit formed around these the array for reading signals from the detectors.

Replace the paragraph beginning at page 2, line 5 with:

Infrared detectors that are used in infrared focal plane arrays may be generally classified by their principles: those of the quantum type in which actions of infrared rays as photons are utilized; and those of the thermal type in which thermal actions of infrared rays are utilized. While those of the quantum type are advantaged have an advantage in that they exhibit high sensitivity and rapid response, the entire device will be is complicated and of high costs costly since detectors need to be cooled to around -200°C. Contrary thereto, while those of The thermal type exhibit inferior response speed, but they need not be cooled but and may operate at room temperature. Therefore, infrared focal plane arrays employing thermal type infrared detectors are the trend in general purpose use.

Replace the paragraph beginning at page 5, line 11 with:

In an infrared focal plane array in which such thermal type infrared detectors are arranged two-dimensionally as pixels, the size of each single infrared detector is limited. ~~Because the~~ ~~The~~ fill factor, which is the area ratio of an infrared absorbing region occupying a pixel area (that is, area of respective infrared detectors), ~~shall~~ ~~should~~ be made as large possible for the purpose of achieving high sensitivity. On the other hand, for improving the sensitivity with respect to infrared rays, it is also necessary to make the supporting legs long enough to improve heat-insulating characteristics of the temperature sensors. For this purpose, various methods have been studied for achieving high sensitivity of thermal type infrared detectors by improving the fill factor and securing a height for the supporting legs.

Replace the paragraph beginning at page 6, line 1 with:

For instance, U.S. Patent No. 6,144,030 discloses a two-layered arrangement in which a bolometer film and an infrared absorbing film are integrally formed as a broad region ~~wherein~~ ~~and~~ thin film supporting legs of high thermal resistance ~~are formed~~ ~~extend~~ downward ~~thereof~~. This structure is effective for ~~bolometer types~~ bolometers since it is possible to secure the fill factor while simultaneously ~~setting~~ making the supporting legs ~~be~~ longer ~~as~~ than usual.

Replace the paragraph beginning at page 8, line 13 with:

Fig. 4 is a cross-sectional view seen from section A-A' IV-IV in Fig. 3;

Replace the paragraph beginning at page 8, line 19 with:

Fig. 6A to Fig. 6E are ~~processes~~ views illustrating ~~methods~~ a method for manufacturing the thermal type infrared detector according to the first embodiment of the present invention;

Replace the paragraph beginning at page 8, line 23 with:

Fig. 7A to Fig. 7D are ~~processes~~ views illustrating ~~methods~~ a method for forming temperature sensors onto an SOI substrate in the first embodiment of the present invention;

In re Appln. of ISHIKAWA et al.
Application No. Unassigned

Replace the paragraph beginning at page 9, line 4 with:

Fig. 9 is a cross-sectional view seen from section ~~A-A'~~ IX-IX in Fig. 8;

Replace the paragraph beginning at page 9, line 19 with:

Fig. 14 is a cross-sectional view seen from section ~~A-A'~~ XIV-XIV in Fig. 13;